

CHEMISTRY 445
PHYSICAL ORGANIC CHEMISTRY
SPRING 2013

Instructor

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Office Hours: by appointment

Required Textbook

Eric V. Anslyn and Dennis A. Dougherty, *Modern Physical Organic Chemistry*,
University Science Books, 2006.

Additional Recommended Textbooks

F.A. Carey and R.J. Sundberg, *Advanced Organic Chemistry. Part A*,
Plenum Press, 2007.
Barry K. Carpenter, *Determination of Organic Reaction Mechanisms*,
Wiley Interscience Publications, 1984.

Course Outline:

In this course we will discuss some microscopic mechanisms and physical principles that govern processes in Organic Chemistry.

- Bonding Concepts.
- Stability and Strain of Molecules.
- Conformational Analysis.
- π -Electronic Effects.
- Solutions.
- Binding Forces.
- Molecular Recognition.
- Supramolecular Chemistry.
- Acid-Base Chemistry.

- Chemical Kinetics of Organic Reactions.
- Linear Free-Energy Relationships.
- Catalysis.

Grading:

Grades will be based on the student's performance on two mid-term exams (20% each), 1 final exam (30%) and 6 homeworks (30%).

Exams:

There will be two mid-term and one final take-home exams. All exams are mandatory.

Homeworks:

Homeworks usually will be distributed weekly or bi-weekly and they will be graded on a scale from 0 to 10. Homeworks in most cases are due one week after assignment.

If you have a documented disability that will impact your work in this class, please contact me to discuss your needs. Additionally, you will need to register with the Disability Support Services Office in the Ley Student Center.